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ABSTRACT

This is the report of a study of the employer perspective of vocational and technical education in South Carolina. The data are based on a return of 12 percent from a population of the 10,000 largest employers within the State. Over 9 out of 10 persons indicated they believed vocational and technical education to be a good source of trained manpower. With over half of the respondents having had experience with graduates of the programs as employees, 85 percent thought the vocational-technical graduates were as capable or more capable than other employees, with over 50 percent ranking them more capable. The respondents thought the technical colleges and centers were meeting the needs of business and industry (74 percent) and also meeting the needs of the students (90 percent). Replies also indicated confidence that the vocational education centers were meeting the needs of business and industry (59 percent), while also meeting the needs of the students (79 percent). Based on a scale of 0 to 10, with 10 being high, the technical centers received a mean rating of 7.67 by all respondents when rated in terms of overall quality of education. The rating of vocational centers in terms of overall quality of education was 6.67. Other measures of the employers' opinions of the two systems provided similar supportive findings. Appended are the survey instrument and an example of the cross-tabulation analysis. (Author/NJ)

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ED126315

THE REPORT OF A SPECIAL STUDY

THE ADEQUACY OF VOCATIONAL AND TECHNICAL EDUCATION

BY THE
SOUTH CAROLINA ADVISORY COUNCIL ON
VOCATIONAL AND TECHNICAL EDUCATION

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FEBRUARY, 1976
COLUMBIA, S. C. 29201

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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THE ADVISORY COUNCIL

The South Carolina Advisory Council on Vocational and Technical Education consists of fourteen members representing diverse backgrounds and experiences who serve in an advisory capacity to technical education and vocational education. The Council functions as a state agency, with the individual members contributing their time and effort to further the programs of vocational and technical education.

Since the responsibility for vocational education in the broad sense is shared by two state boards in South Carolina, the Council assumes an advisory role to both boards. The State Board of Education is designated as the State Board for Vocational Education by state statute. Technical education in South Carolina is administered by the State Board for Technical and Comprehensive Education. The Council is thus advisory to both these boards.

The authority of the Council is derived from the provisions of the Vocational Education Amendments of 1968 (P.L. 90-576). Section 104 (b) (1) of P.L. 90-576 states: "*Any state which desires to receive a grant under this title for any fiscal year shall establish a state advisory council, which shall be appointed by the Governor...*". Governor James B. Edwards serves as the appointing authority for the South Carolina council.

The Act further provides that the Council will "*(c) evaluate vocational education programs, services, and activities assisted under this title, and publish and distribute the results thereof...*". The report of the study contained in this brief publication is a result of a conscientious and deliberate effort to carry out this function.

The members of the council and the executive director are listed in a later section. Any of these persons would be pleased to discuss the report or receive comments on the report or the broad topic of vocational and technical education.

SUMMARY

This is the report of a study of the employers perspective of vocational education and technical education in South Carolina. The data are based on a return of 12 percent from a population of the 10,000 largest employers within the state. The survey form was jointly developed by the research consultant and the staff of the state advisory council, then refined and improved cooperatively with members of the advisory council, representatives of technical education and vocational education. The refined survey form was prepared and mailed by the consultant, and the tabulation and preliminary analysis services provided by the consultant firm to a committee of the State Advisory Council on Vocational and Technical Education.

Those who responded to the survey were very supportive of technical education and of vocational education. Over 9 of 10 persons indicated they believed vocational and/or technical education to be a good source of trained manpower. With over half of the respondents having had experience with graduates of the programs as employees, 84 percent thought the vocational/technical graduates were as capable or more capable than other employees, with over 50 percent ranking them more capable. The respondents thought the technical colleges/centers were meeting the needs of business and industry (74%) and also meeting the needs of the students (90%). Replies also indicated confidence that the vocational education centers were meeting the needs of business and industry (59%), while also meeting the needs of the students (79%). Based on a scale of 0 to 10, with 10 being high, the technical centers received a mean rating of 7.67 by all respondents when rated in terms of overall quality of education. The rating of vocational centers in terms of overall quality of education was 6.67 - also a high expression of confidence. Other measures of the employers opinion of the two systems provided similar, supportive findings.

In an age when the indications are for growing dissatisfaction with the educational systems, this large sample of employers indicate great confidence in the South Carolina Systems of Vocational Education and Technical Education.

The sample of respondents included representatives of all geographic areas of the state, basically comparable to the population density of various areas. An adequate number of useful returns were obtained from all major Standard Industrial Classification (SIC) types except for the category of mining - a type of enterprise consisting of relatively few firms in South Carolina. Some of the respondents, about one-third, recently or currently had some type of affiliation with the vocational programs or the technical centers/colleges, either as an advisory committee member, a member of the governing board, or as a full or part-time faculty member. Only a relatively few persons were affiliated in the later two categories, while 20 percent had advisory committee experience.

Additional data were obtained which was given to those administratively reponsible for these excellent educational programs.

VOCATIONAL EDUCATION & TECHNICAL EDUCATION
AS SEEN BY THE EMPLOYERS

INTRODUCTION:

The State Advisory Council on Vocational and Technical Education is an appointive body whose major responsibility is to advise on "the programs, services and activities" [1] of vocational education. The fourteen member council is appointed by the Governor under the provisions of the Vocational Education Amendments of 1968 (P.L. 90-576) and is charged not with administrative prerogatives, but the responsibility of an advisory role to the broad area of vocational education. As used in the federal act, vocational education is a broad term that encompasses programs of secondary and adult vocational education under the aegis of the public school system, and the diploma and associate degree occupational programs provided by the State Tec System. The Council, then, serves in an advisory capacity to the State Board of Education which is the State Board for Vocational Education, and to the State Board for Technical and Comprehensive Education.

The specified responsibility of"evaluating" vocational (broadly defined) education programs, services, and activities is culminated annually by the preparation of an annual evaluation report by the Council. This annual evaluation report is appropriately presented to both the State Board of Education and to the State Board for Technical and Comprehensive Education. Coincident with the specific committee and detail work that preceded the preparation of the 1975 evaluation report, it became apparent that another dimension of viewing the state's vocational and technical education programs has been consistently neglected in the evaluation activities. If one is to adequately evaluate the "effectiveness" of programs, what better perspective exists that that of the employers? The employers are the recipients of the product of vocational and/or technical education - graduates.

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(1)
From P. L. 90-576

A deliberate decision was reached to tap the employer's collective opinion of these occupational education programs. The Council preferred to include a large sample, obviate or minimize internal bias, and obtain an accurate assessment of employers contemporary opinion about vocational and technical education.

This is the report of that project.

The primary purpose of this study was to obtain valid data which would assist the Council in its responsibility to evaluate "the effectiveness of vocational education programs, services and activities...."[1] The intent was to sample a large number of employers to obtain their perspective concerning the programs, while obviating or minimizing the bias of (1) those with a vested interest in the programs, or (2) biased responses from respondents who often are inclined to give the answers that they believe are wanted.

An outside consulting firm was employed because of their access to the desired population, and because of confidence in their research capability. Approval was granted following thorough discussion and deliberation by the evaluation committee, the executive committee, the entire council and finally following concurrance by the secretary of the State Budget & Control Board. Throughout the process, and until the questionnaire was approved, key staff from the Office of Vocational Education and from the State TEC staff were involved.

The initial step was to state the basic question to be answered, then this was broken into several more specific questions. The first draft of the survey form was designed to answer these questions. Close examination of the questionnaire compared to the specific subquestions revealed several items that could be and were deleted. The revised questionnaire was then carefully reviewed by a committee of the council, meeting jointly with representatives from technical education and from vocational education. This resulted in the final draft of the questionnaire.

Concurrently with the development of the questionnaire, the data files of the consultant firm were searched and pre-printed labels run for the 10,000 largest employers within the state. This constituted the population for the study.

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(1) P.L. 90-576 Sec. 104 (b) (1) (D) (i)

The questionnaires were mailed to the selected populations with instructions to return completed forms to the consultant firm. No follow-up was made and a cut-off date was established which allowed approximately two weeks for the forms to be completed and returned. Of 10,000 forms mailed, 1161 useable forms were received by the cut-off date - a return of 12 percent. Coding and machine processing of the returns was accomplished by the firm, and the analysis from the computer print-out was provided for the committee of the council.

The interpretation and subsequently the report contained herein are the results of the committee's efforts.

HOW ADEQUATE IS VOCATIONAL EDUCATION AND TECHNICAL EDUCATION?

Good Source of Trained Manpower

Those surveyed were asked to respond to a question as to whether they believed the technical centers and/or vocational centers provide a good source of trained manpower. The importance of this indicator cannot be minimized, since the population of the study included all of the larger employers within the state. It was possible also to discriminate in the analysis between those who had had experience as employers of the graduates of the programs and all respondents.

There was an overwhelming expression of confidence given to both occupational systems by the respondents. Of all respondents, over 9 out 10 replied yes, this was a good source of trained manpower. From those who had employed vocational education or technical education graduates, the replies indicated that 19 out of 20 persons (95 or 96 percent) thought these programs to be a good source of manpower. Note in Table I the consistency, and it can be observed also that those with experience in employing graduates were slightly more positive than the total of respondents.

TABLE I

Incidence of Technical and/or Vocational Education Centers Being Considered as a Good Source of Trained Manpower

	All Respondents		Those Who Have Hired Voc/Tec Graduates		
	Number	Percent	TEC Percent	VOC Percent	BOTH Percent
Yes, Good Source	1064	92%	96%	95%	96%
No, Not a Good Source	76	7	3	4	4
Don't Know/No Answer	21	2	-	1	-
Total	1161	100%	99%	100%	100%

Meeting the Needs of Business/Industry

There are several dimensions of occupational education programs. They may fulfill the needs of business and industry with little regard to the desires, preferences and capabilities of students. Programs and institutions can also be designed to meet the expressed and unexpressed needs, capabilities, and interests of the students which may or may not meet the needs of local business and industry. This next section reflects how employers responded to each of these two dimensions.

As given in Table II, the employers who responded were most favorable in their expression of satisfaction with the degree to which the technical colleges or centers were meeting the needs of business or industry. The respondents as an entire group were favorable in their reply, with almost three-fourths being favorable or at least expressing satisfaction. Also given in Table II are the replies for those who had hired vocational or technical education graduates. These persons were even more enthusiastic than the entire response group.

TABLE II

Expressed Extent to Which Technical Education Colleges/Centers in the Area are Meeting the Needs of Business or Industry

	All Respondents		Employed Tec or Voc Graduates		
	Number	Percent	Percent Hired TEC	Hired VOC	Hired BOTH
To A Very Great Extent	104	9%	15%	7%	9%
To A Great Extent	380	33 74%	37	36	41
Somewhat of An Extent	376	32	37	37	36
Not That Great of An Extent	140	12	8	12	9
No Extent At All	104	9	1	4	2
Don't Know/No Answer	57	5	2	4	1
Total Number	1161	100%	100%	100%	98%*

*Replies may not total 100% due to rounding.

One of the few areas where the results of the survey is depicted by the nine major Standard Industrial Classifications (SIC) is in answering the question of meeting the needs of industry. Of the nine SIC categories, replies from the area of mining is omitted due to the small number of responses. As can be seen in Table III, there was no major difference in the replies when tablulated by major SIC areas.

TABLE III

Expressed Extent to Which Technical Education Colleges/Centers are Meeting the Needs of Business or Industry. Arrayed by Major Standard Industrial Classification (SIC) Areas

	All Respondents		Percent Standard Industrial Classification							
	Number	Percent	Agr. For. Fish	Con-stru ctn.	Manu-fact urng	Trns Com. Utl.	Whle sale	Re-tail	Fin. Ins R.E.	Ser-vice
To A Very Great Extent	104	9%	8%	8%	8%	9%	9%	7%	12%	12%
To A Great Extent	380	33	32	35	36	33	30	29	32	34
To Somewhat Of An Extent	376	32	32	30	33	36	34	32	26	32
To Not that Great Of An Extent	140	12	4	12	[illegible]	11	12	13	10	7
To No Extent At All	104	9	8	10	5	3	10	12	6	10
Don't Know/No Answer	57	5	16%	4%	3%	2%	5%	7%	4%	5%
Total Number	1161									
Total Percent		100%	100%	99%	100%	100%	100%	100%	100%	100%

Mining is omitted because of low numbers

Three-fifths (59%) of the respondents were essentially complimentary or neutral in their expressed opinion concerning the extent to which vocational centers were meeting the needs of business or industry. This is obtained in the three highest ratings in Table IV. The reader should also note that ten percent (10%) of all respondents declined to respond or said they didn't know. This may indicate that these employers were unfamiliar with the vocational centers due to many different reasons. As might have been expected, over eighty percent (80%) of those who had employed vocational graduates responded in the affirmative or neutrally.

TABLE IV

Expressed Extent to Which Vocational Education Centers in the Areas are Meeting the Occupational Needs of Business or Industry

	All Respondents		Respondents Who Had Employed Graduates		
			Hired TEC Grads	Hired VOC Grads	Hired BOTH Grads
	Number	Percent		Percent	
To A Very Great Extent	48	4%	5%	5%	6%
To A Great Extent	248	21 59%	16	39 82%	32
Somewhat of An Extent	397	34	33	38	41
Not That Great of An Extent	202	17	20	12	15
No Extent At All	146	13	8	4	3
Don't Know/No Answer	120	10	18	2	3
Total Number	1161				
Total Percent		99%	100%	100%	100%

The responses to the question regarding the extent to which the Vocational Education Centers are meeting the needs of Business or Industry were analyzed by SIC categories. Considerable variation in the replies by SIC categories is noticed in Table V. While approximately one-third (30% to 42%) were neutral, the range of those replying in the affirmative was from 20 percent to 39 percent. Affirmative replies are considered to be those replying "to a very great extent" or "to a great extent". Disregarding mining and agriculture due to the small number of replies which are not shown in Table V, it appears that the area of wholesale and the area of finance, insurance and retail are not as satisfied as the other areas. These data by SIC areas will merit greater attention by those in administration.

TABLE V

Expressed Extent to Which the Vocational Education Centers are Meeting the Needs of Business or Industry. Arrayed by Major Standard Industrial Classification (SIC) Areas

	All Respondents		Percent Standard Industrial Classification						
	Number	Percent	Con-stru ctn.	Manu-fact uring	Trns Com. Utl.	Whle sale	Re-tail	Fin. Ins. R.E.	Ser-vice
To A Very Great Extent	48	4%	3%	4%	12%	3%	4%	2%	6%
To A Great Extent	248	21	23	21	27	17	20	14	26
To Somewhat Of An Extent	397	34	39	37	30	34	34	42	33
To Not That Great Of An Extent	202	17	17	20	23	16	19	20	12
To No Extent At All	146	13	12	10	13	13	14	12	14
Don't Know/No Answer	120	10	6%	8%	16%	16%	9%	10%	12%
Total Number	1161		145	226	64	122	274	50	251
Total Percent		100%							

Mining is omitted because of low numbers

Meeting the Needs of Students

It is also important to look at the other dimension - how do employers believe that the institutions are meeting the needs of the students?

Anticipating that many of those surveyed may have some vested interest or involvement in the schools/centers/colleges, the respondents were asked to complete questions relating to this possible involvement. In depicting the replies concerning the respondents perception of the institution meeting the occupational needs of the students, the data are shown for all respondents, and also for those who indicated involvement as an advisory committee member, board member, or who may have served in some full or part time faculty position. As might be expected, those with school involvement were notably higher in responding. Nearly all thought the technical colleges/centers were meeting the occupational needs of the students to a great or very great extent or replied neutrally. See Table VI. However, for the respondents as a group, only one percent (1%) replied negatively, with an additional five percent (5%) not responding. The number of respondents with some technical education affiliation was only 207 of 1161 respondents, or about one in six.

TABLE VI

Extent to Which the Technical Education Colleges/Centers are Meeting the Occupation Needs of the Students

Extent	Total Respondents		Respondents Who Had Involvement in Technical Education		
	Number	Percent	Advisory Member Percent	Board Member Percent	Faculty Full or Part Time Percent
To A Very Great Extent	175	15%	22%	30%	14%
To A Great Extent	565	49 90%	52	57	54
To Somewhat Of An Extent	306	26	20	9	26
To Not That Great Of An Extent	50	4	4		6
No Extent At All	8	1	1		
Don't Know/No Answer	57	5	1	4	
Total Number Total Percent	1161	100%	134 100%	23 100%	50 100%

When asked the extent to which vocational education centers are meeting the occupational needs of students, the response was again positive, seventy-nine percent (79%) replied this was being done to a great or very great extent, or replied neutrally. Only two percent (2%) replied with a negative response. With about thirteen percent (13%) of all respondents reporting some affiliation with the vocational programs, their replies nevertheless showed greater confidence, or a more affirmative response to the question of meeting the occupational needs of the students. Only about nine percent (9%) of all (N=99) the respondents reported involvement as an advisory committee member with some vocational center, despite the fact that these were the state's largest employers and that considerable emphasis is placed on active advisory committees.

TABLE VII

Extent to Which the Vocational Education Centers are Meeting the Occupational Training Needs of the Students

	Total Respondents		Respondents Who Had Vocational School Involvement		
	Number	Percent	Advisory	Board Member	Faculty Full or Part
			Percent	Percent	Percent
To A Very Great Extent	121	10%	17%	19%	19%
To A Great Extent	404	35 - 79	39	38	42
Somewhat Of An Extent	393	34	31	35	27
Not That Great Of An Extent	95	8	10		4
No Extent At All	19	2	1	4	4
Don't Know/No Answer	121	11	1	4	4
Total					
Number	1161		99	26	26
Percent		100%	100%	100%	100%

Graduates Compared with Other Employees

Those surveyed were asked to reply if they had hired vocational or technical education graduates in the past, and then if so, to provide some assessment of these graduates who were employed in relation to other employees. Over thirty percent (30%) (N = 356) of the respondents had hired vocational education graduates, and their responses are given in Table VIII. A total of eighty-four percent (84%) reported these graduates were as capable or much more so than other employees.

TABLE VIII

Rating by Employers of Vocational Education Graduates of those Graduates with other Employees

	Total	
	Number	Percent
Extremely Capable	21	6%
Very Capable	174	49
Somewhat Capable	104	29
Not As Capable	10	3
Don't Know/No Answer	47	13
Total		
Number	356	
Percent		100%

84%

Base: Respondents who have employed Vocational Graduates.

More than forty percent (40%) (N = 485) of all respondents reported having employed technical education graduates. It is satisfying to observe that nine-four percent (94%) of these persons were positive in their assessment of the technical graduates. See Table IX. Only one percent (1%) were negative, while just four percent (4%) reserved judgement.

TABLE IX

Rating by Employers of Technical Education Graduates of those Graduates Compared with other Employees

	Total		
	Number	Percent	
Extremely Capable	60	12%	
Very Capable	303	62	94%
Somwhat Capable	96	20	
Not as Capable	6	1	
Don't Know/No Answer	20	4	
Total			
Number	485		
Percent		100%	

Base: Respondents who have employed Technical Graduates.

Quality of Education

Table X gives a summary view of the way employers rated vocational education centers in their respective areas in terms of a scale of 0 to 10, where 0 is low and 10 is high. The arithmetical average of these responses would have to be 5.00, given a perfect distribution of positive and negative responses. The average of all responses was 6.67, definitely a positive response in favor of the vocational schools. Of those who had hired vocational graduates, the mean response was appreciably higher at 7.16. All respondents were sorted by SIC categories, and the highest and lowest mean scores by service category is also given in Table X except for the area of mining, where the number of responses was too low to have real significance. There was surpriseingly little difference in the range by SIC categories.

Those persons with vocational school involvement consistently provided higher average responses than the mean of all scores.

TABLE X

Rating of the Vocational Centers in Terms of Overall Quality of Education

Respondents	Mean Score
All	6.67
Those Who Had Hired Voc Graduates	7.16
Those Who Had Hired Tec Graduates	6.29
Those Who Had Hired Graduates of Both	6.91
SIC Category with Highest Score (Service)	7.27
SIC Category with Lowest Score[1] (Wholesale)	6.35

[1] Range of 0 - 10 possible, with 0 being low and 10 being high. Category of Mining omitted due to low number of responses.

The employers who participated in this survey were very positive in their opinion of the overall quality of education in the technical centers/colleges. The score for the average response was 7.67, compared to an expected mean of 5.00 as shown in Table XI. Those with the experience of having hired technical graduates scored even higher than the average of all responses, giving a rating of 7.87 compared to 7.67 for all respondents. When arrayed by SIC categories, the range was very small, being only from 7.43 to 8.02.

TABLE XI

Rating of the Technical Centers/Colleges in Terms of the Overall Quality of Education

Respondents	Mean Score
All	7.67
Those Who Had Hired Tec Graduates	7.87
Those Who Had Hired Voc Graduates	7.77
Those Who Had Hired Graduates of Both Voc & Tec	7.68
SIC Category with Highest Score (Fin., Ins., Real Estate)	8.02
SIC Category with Lowest Score (1) (Wholesale)	7.43

(1) Range of 0 - 10, with 0 being low and 10 being high.
Category of mining omitted due to low number of responses.

Persons who had some involvement with the institutions or programs consistently rated those programs higher than the respondents as a whole. Table XII gives the data for the composite ratings of the technical centers/colleges for all respondents and for those with some type of affiliation with the programs. While those with some type of affiliation consistently rated the programs higher than all respondents, it is not significantly higher. Very similar results were obtained for the ratings of the vocational centers, where those with vocational program affiliation rated the vocational programs higher than the composite score for all respondents. Since the data were not significant, these are not depicted in table form.

TABLE XII

Ratings of the Technical Centers/Colleges by the Total Response Group and by Selected Groups

	Average Rating	Number
All Respondents	7.67	1161
All Those With Involvements or Advisory Committee Members	7.75	134
Board Membership	7.78	23
Full or Part-Time Faculty	7.74	50

SUGGESTIONS FROM THE EMPLOYERS

The survey instrument provided several opportunities for the employers (respondents) to provide input that might be of value to the educational planners and administrators. Some of the questions were open ended, affording ample opportunity for the respondents to reply, while others were essentially pre-structured. Suggestions were obtained that have been provided to state-wide planners but that do not lend themselves to a summary report of this type.

The respondents were also given the opportunity to list major and/or critical areas where manpower is needed by the firm. Twenty-two separate occupational categories were identified which accounted for 101% of the replies. Typical categories included "mechanics" - 12%, "sales" - 8%, "data processing" - 1%, and 19 others. No display of these data are given.

The perspective of persons outside of the day-to-day administration of programs sometimes has value to those involved in the internal process of administration and/or teaching. The participants could respond to some suggested categories and could add others as desired. These were then tabulated and placed in rank order.

Seven of the identified categories of suggestions are given in Table XIII. The most frequently mentioned item was the need for more publicity about the programs, with nearly half expressing a concern for this item. An item which ranked thirteenth is also given in Table XIII, to show the relative unconcern employers have here, or perhaps it is a manifestation that employers do not see any apparent duplication. Many other suggestions were given, which will be supplied as raw data to those in vocational education and in technical education administration.

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TABLE XIII

Suggestions for Improvement and Administration of Vocational and Technical Education

Suggestion	Rank Order	Percent of Respondents
More Publicity About Programs	1	42%
More Involvement From Your Agency Or Firm In An Advisory Capacity	2	15
More Technical Education Programs	3	13
More Courses Offered Off Main Campus But Closer To Your Firm	4	9
More Vocational Education Programs	5	8
More Courses At Your Plant Or Place of Business	6	7
Eliminate Duplication of Training Programs Between Technical And Vocational Education	13	1%

Base: All respondents.

Two other questions were asked so the participants could respond concerning their own needs for occupational programs. The suggestions for specific programs in technical education provided 22 separate categories with one percent (1%) response or better, while seventeen types of programs were requested by the respondents in the area of vocational education. These suggestions have no particular statistical significance, but should be of value to the occupational education planners.

More direct and better input is usually given on a personal basis to local educational personnel. Well over half (56%) reported they had been contacted by one or the other of the occupational educational centers. These data are given in Table XIV. Two of five of the respondents reported no contact, however, and this from a sample representing the larger employers in the state.

TABLE XIV

Number and Percent of all Respondents Being Contacted by Vocational Education or Technical Education for Employment Opportunities or Recommendation

Category	Number	Percent
Yes, Contacted	647	56
By Voc Center	114	10
By Tec Center	282	24
By Both	218	19
Don't Know Which	32	3
No, Not Contacted	505	43
Don't Know/No Response	10	1
Total Number	1161	
Percent		100

Base: All Respondents.

CHARACTERISTICS OF THE RESPONDENTS

The persons who responded to this study represented a cross-sample of the business and industrial community and represented all geographic areas of the state of South Carolina. Each of the nine major Standard Industrial Classification (SIC) areas were represented.

Type of Business/Industry

The largest category of respondents was in the area of Retail with 24 percent followed closely by Services with 22 percent and then by Manufacturing with 19 percent. The number and percent of each of the SIC groups is given in Table XV. The classification of mining contained so few responses as to be basically blank and is generally omitted in this report where SIC categorization is given.

TABLE XV

Number and Percent of Useable Responses from Each of the Nine Major Standard Industrial Classification Groups

	Useable Responses		Rank Order
SIC CLASSIFICATION	Number	Percent	
Agriculture/Forestry/Fishing	25	2%	8
Mining	4	-	9
Construction	145	12	4
Manufacturing	226	19	3
Transportation/Communication/Utilities	64	6	6
Wholesale	122	11	5
Retail	274	24	1
Finance/Insurance/Real Estate	50	4	7
Services	251	22%	2
Total Number	1161		
Percent		100%	

Geographic Representation

Geographic representation from all areas of the state was obtained in the study. At the time of the study, there were 51 operating area vocational centers with some so new that they had not graduated the first class of students. Nevertheless, when asked to name a nearby vocational education center with which the respondent was familiar, almost one-half were able to do so. Of greater significance, however, is that 47 of the 51 existing centers were identified. The number of responses for each Center ranged from a high of 35 to a low of one. The summarized data on vocational center identification are given in Table XVI.

TABLE XVI

Incident of Respondents Identifying Area Vocational Centers

Response Categories	Responses	
	Number	Percent
Named Identifiable Vocation Center	513	44%
All Others	93	8
Don't Know/No Answer	555	48%
Total Number	1161	
Percent		100%

Number of Vocational Centers Named = 47

There were multiple useable responses which identified one of the sixteen Technical education centers/colleges. In all, over 80 percent of the respondents identified one of the sixteen centers/colleges. See Table XVII.

TABLE XVII

Response Categories	Responses Number	Percent
Respondents Who Identified A Technical Center	941	81%
Don't Know/No Answer	210	18
All Others	10	1%
Total Number	1161	
Percent		100%

One indication of geographic representation is given in Table XVIII. This table shows the number of times each center/college was named by respondents as being the first technical institution that the respondent thought of when completing the survey form. None of the institutions are identified here but the range was from 173 for one center/college to a low of 4 for another. The reasons for this range are myriad, but it is presumed that respondents would usually identify a college/center in their immediate area, thus providing a rough indication of geographic representation. All areas of the state were represented, corresponding generally with the population density of the different geographic areas.

TABLE XVIII

Frequency of Respondents Identifying Specific Technical Colleges/Centers

Technical Center	Respondents Naming Center/College	
	Number	Percent
A	173	15%
B	125	11
C	122	11
D	102	9
E	73	6
F	67	6
G	53	5
H	43	4
I	42	4
J	38	3
K	35	3
L	28	2
M	18	2
N	12	1
O	6	1
P	4	1%
Average	59	5.25%

Experience with Program Graduates

Over one-half of the respondents reported having employed graduates of the technical centers/colleges or of the vocational programs, or both. However, 45 percent reported they had not employed graduates of these programs. See Table XIX. Of interest are the data in Table XIX showing that four of the eight SIC code areas apparently have programs that come closer to meeting their needs than the other four categories who reported from 58 to 66 percent that had not employed graduates. The group with the greatest percentage of employers to report having hired graduates was in Manufacturing with 72 percent, then with Service and Construction, each with 60 percent and finally Transportation with 56 percent.

TABLE XIX

Incidence of Employment of Technical or Vocational Graduates in Occupations Related to their Area of Training

	All Respondents		Selected SIC Categories (Percent)							
	Number	Percent	Agric., Forestry, Fishing	Con-struc-tion	Manu-fact-uring	Trans-porta-tion Utl.	Whle-sale	Re-tail	Fin. Ins. R.E.	Service
Yes, Have Hired Graduates	622	54	36%	59%	72%	56%	42%	40%	34%	60%
No, Have Not Hired Graduates	528	45	64	41	27	44	58	58	66	38
Don't Know/No Answer	11	1	-	-	1	-	-	1	-	2
Total Number	1161		25	145	226	64	122	274	50	251
Percent		100%	100%	100%	100%	100%	100%	100%	100%	100%

Base: All Respondents

Only one-third of the respondents reported having had prior or current involvement with the technical centers/colleges or the vocational programs in an advisory committee capacity, as a board member, or as a full or part time faculty member. The break-out by each of the three categories follows.

Members of Advisory Committees

Only one in five (20 percent) of the respondents reported being or having recently been a member of an advisory committee for either vocational education or technical education. As may be seen in Table XX, just two percent reported dual membership. Of all the respondents, 78 percent reported they were not or had not recently been an advisory committee member.

TABLE XX

Respondents Who Are or Who have Recently Been a Member of an Advisory Committee

Incidence	Total Member	Percent
Yes, Have Been A Member	236	20%
Vocational Only	77	7
Technical Only	112	10
Both	22	2
No Answer	25	2
No, Have Not Been A Member	911	78
Don't Know/No Answer	14	1%
Total Number	1161	
Percent		100%

Base: All Respondents.

Members of a Governing Board

A few of the respondents reported affiliation with a vocational education program or a technical education institution through current or recent membership on a governing board. As given in Table XXI, this accounted for six percent of the respondents. When those who replied that they had not been a member are totaled with the no answer replies, this accounts for the remaining 94 percent of all respondents.

TABLE XXI

Respondents Who Are or Who have Recently Been a Member of a Governing Board for Vocational Education or Technical Education

Incidence	Total	
	Number	Percent
Yes, Have Been A Member	69	6%
Vocational Only	21	2
Technical Only	18	2
Both	5	-
No Answer	25	2
No, Have Not Been A Member	1073	92
Don't Know/No Answer	19	2
Total Number	1161	
Percent		100%

Base: All Respondents.

Full or Part-Time Faculty Members

A few of the respondents have recently or are currently serving as either full or part-time faculty members for either vocational education or for technical education. The total of these faculty members amounted to six (6) percent as shown in Table XXII. Approximately twice as many reported this type of affiliation with technical education as with vocational education, probably reflecting the greater use of part-time instructional personnel by technical education.

Respondents Who Are or Who have Recently Been a Full or Part-Time Faculty Member of a Vocational or Technical Education Center

Incidence	Total Number	Percent	
Yes, Have Been A Member	71	6%	
Vocational Only		19	2
Technical Only		43	4
Both		7	1
No Answer		2	-
No, Have Not Been A Member	1075	93	
Don't Know/No Answer	15	1	
Total Number	1161		
Percent		100%	

Base: All Respondents.

CONCLUSIONS

The following general statements are derived from the data obtained by this study, and supported with greater detail in the report. The major conclusions from the study are:

- Employers consider both vocational and technical education programs to be a good source of trained manpower.
- Employers generally rate graduates of technical education programs and vocational education programs higher than other employees.
- Vocational Centers are considered to be meeting both the needs of the students, and the needs of business and industry, with employers expressing the opinion that they are better at meeting the needs of the students.
- Technical colleges/centers are considered to be meeting both the needs of business and students with employers expressing slightly greater confidence that the centers/colleges are better at meeting the needs of the students.
- Employers rated both vocational centers and technical centers/colleges high in terms of overall quality of education.
- Persons with vested interest through affiliation in an advisory capacity, board membership, or as full or part-time faculty rated programs slightly higher than all respondents as a group.
- By far the single most common suggestion was for more publicity about programs.
- Many major employers do not recall having been contacted by either technical education or vocational education for employment opportunities or recommendations.
- Employers were more familiar with the technical education centers/colleges than with area vocational education centers.
- Vocational education and technical education programs are more highly oriented to manufacturing than to other categories of business and industry.
- Only a small percentage of major employers are, or recently have been utilized as members of advisory committees.

IMPLICATIONS AND RECOMMENDATIONS

The data and findings of this study are high supportive of vocational education and technical education, but with implications for those who administer the programs at the state level. Further, a careful study of the data by members of the Advisory Council resulted in specific recommendations that follow. These recommendations are directed to specific groups and thus are categorized according to the intended recipient group.

Recommendations to the State Board for Technical and Comprehensive Education

1. Recommend that the State TEC Staff carefully review the data for administrative implications.

2. Recommend that priority consideration be given to programs that will fulfill the needs of business and industry in agriculture, wholesale, retail and finance/insurance and real estate.

3. Recommend that emphasis be given to the matter of ever greater dissemination of information to the public about available programs.

Recommendations to the State Board of Education (State Board for Vocational Education)

1. Recommend that the Office of Vocational Education carefully review the data for administrative implications.

2. Recommend that the Office of Vocational Education give priority to development of or expansion of programs that will fulfill the needs of business and industry in the four areas of agriculture, wholesale, retail, and finance/insurance and real estate.

3. Recommend that emphasis be given to the matter of even greater dissenination of information to the public about available programs.

Recommendation to the State General Assembly

1. Recommend that the General Assembly continue to give high priority to providing adequate funding for the programs of vocational education and technical education. Both of these programs have the confidence of major employers and are rapidly gaining acceptablity in fulfilling the needs of the students and the needs of business and industry.

APPENDICES

A - Survey Instrument

B - Example of Cross-Tabulation Analysis

34

Dun & Bradstreet, Inc.
BUSINESS INFORMATION SYSTEMS, SERVICES AND SCIENCES

MARKETING SERVICES DIVISION 99 CHURCH STREET, NEW YORK, N.Y. 10007 Tel. (212) 285-7000

October 28, 1975

Dear Sir:

Dun & Bradstreet is presently gathering information for a client from a carefully selected sample of businesses in South Carolina regarding their experiences with and impressions of vocational and technical education.

We would appreciate your help in completing the brief and easy-to-use form that follows. Please turn the page, answer the questions that apply and return the form in the enclosed self-addressed envelope.

Your reply will provide valuable input in ensuring that these schools operate efficiently and responsively and that your future needs are met.

Thank you for your participation which will help to ensure the success of this effort.

Sincerely,

Bernard V Preston

Bernard V. Preston
Vice President

BVP/bm
Enclosure

THROUGHOUT THIS QUESTIONNAIRE TWO TERMS ARE USED —

VOCATIONAL EDUCATION means any of the vocational education programs in the 202 high schools or 51 area vocational education centers in South Carolina, operated by local school districts or by consolidated vocational districts.

TECHNICAL EDUCATION refers to those programs operated by any of the 16 technical colleges and centers in South Carolina.

35

1. To what extent do you feel the vocational centers and/or technical colleges/centers are meeting the needs of the business and/or industrial community?

14-1 ☐ To a Very Great Extent
2 ☐ To a Great Extent
3 ☐ To Somewhat of an Extent
4 ☐ To Not That Great of an Extent
5 ☐ To No Extent at All

2. How familiar are you with any of the vocational education centers or programs on vocational education in the high schools?

15-1 ☐ Extremely Familiar
2 ☐ Very Familiar
3 ☐ Somewhat Familiar
4 ☐ Slightly Familiar
5 ☐ Not at All Familiar

3. And what vocational education center or school with a vocational program first comes to mind?

_____ 16 17

4. How familiar are you with any of the technical education centers or colleges?

18-1 ☐ Extremely Familiar
2 ☐ Very Familiar
3 ☐ Somewhat Familiar
4 ☐ Slightly Familiar
5 ☐ Not At All Familiar

5. And what technical education center or college first comes to mind?

_____ 19 20

6. To the best of your knowledge, in the past two years, have you employed any graduates of the technical or vocational education programs in occupations related to the area of their training?

21-1 ☐ Yes, hired technical education graduates
2 ☐ Yes, hired vocational education graduates
3 ☐ Yes, hired both technical and vocational education graduates
4 ☐ No, did not hire either technical or vocational education graduates

7. Have you hired any vocational or technical graduates for employment in areas **not** related to their training?

22-1 ☐ Yes — Do you think they were better qualified for the position as a result of their vocational or technical education?
23-1 ☐ Yes 2 ☐ No

2 ☐ No — Do you plan to hire any graduates in the next 12 months?
24-1 ☐ Yes 2 ☐ No

8. Have you ever been contacted by a vocational center or technical college/center regarding employment opportunities or your recommendations for future courses of study?

25-1 ☐ Yes — by a Vocational Center ☐ 26-1
by a Technical College ☐ 2
by both a Vocational Center and a Technical College ☐ 3

2 ☐ No

9. Do you consider technical and/or vocational education centers as a good source of trained manpower?

36 27-1 ☐ Yes, technical centers/colleges are
2 ☐ Yes, vocational centers are
3 ☐ Yes, both technical colleges/centers and vocational centers are
4 ☐ No . . . Why? _____ 28

_____ 29

Note: If you have hired technical and/or vocational graduates in the past, please continue to question 10 -- otherwise skip to question 13.

10. How would you rate these technical and/or vocational education graduates in relation to other employees in similar positions?

Technical Graduates: (CHECK BELOW)	Vocational Graduates: (CHECK BELOW)
30-1 ☐ Extremely Capable	31-1 ☐ Extremely Capable
2 ☐ Very Capable	2 ☐ Very Capable
3 ☐ Somewhat Capable	3 ☐ Somewhat Capable
4 ☐ Not As Capable	4 ☐ Not As Capable

11. And basically, what were the areas of their training?

_____ 32

_____ 33

12. Will you consider vocational or technical education graduates again when you need similarly trained employees?

34-1 ☐ Yes, vocational graduates 2 ☐ Yes, technical graduates 3 ☐ Yes, both vocational and technical graduates
4 ☐ No, neither vocational nor technical graduates . . . Why? _____

_____ 35

_____ 36

13. What are the major and/or critical areas where trained manpower are needed in your firm?

_____ 37

_____

_____ 38

14. To what extent do you feel the *technical education colleges/centers* in your area are meeting the occupational training *needs of the students*?

39-1 ☐ To a Very Great Extent
2 ☐ To a Great Extent
3 ☐ To Somewhat of an Extent
4 ☐ To Not That Great of an Extent
5 ☐ To No Extent at All

15. And to what extent do you feel the *vocational education centers* are meeting the occupational training *needs of the students*?

40-1 ☐ To a Very Great Extent
2 ☐ To a Great Extent
3 ☐ To Somewhat of an Extent
4 ☐ To Not That Great of an Extent
5 ☐ To No Extent at All

16. And using a "0" to "10" scale with "0" being the lowest rating and "10" being the highest how would you rate the technical and vocational schools in your area in terms of the overall quality of their education?
(Circle appropriate rating)

Vocational Education:	0	1	2	3	4	5	6	7	8	9	10	(41)
Technical Education:	0	1	2	3	4	5	6	7	8	9	10	(42)

17. To what extent do you feel that the *technical colleges/centers* in your area are meeting the occupational *needs of your business or industry*?

43-1 ☐ To a Very Great Extent
2 ☐ To a Great Extent
3 ☐ To Somewhat of an Extent
4 ☐ To Not That Great of an Extent
5 ☐ To No Extent at All

18. And to what extent do you feel the *vocational centers* in your area are meeting the occupational *needs of your business or industry?*

37

44 1 ☐ To a Very Great Extent
2 ☐ To a Great Extent
3 ☐ To Somewhat of an Extent
4 ☐ To Not That Great of an Extent
5 ☐ To No Extent At All

19. Are you now or have you been in the recent past a member of an advisory committee for any technical or vocational program or institution?

45 1 ☐ Yes → 46 1 ☐ Vocational / 2 ☐ Technical → . . . What type of committee?

_____ 47 48
_____

2 ☐ No

20. Are you now or have you recently been a member of any school board, board of trustees or other governing board for a vocational or technical education center?

49 1 ☐ Yes → 50 1 ☐ Vocational / 2 ☐ Technical → . . . What institution?

_____ 51 52
_____

2 ☐ No

21. Are you now or have you recently been a full- or part-time faculty member of a vocational or technical education center?

53 1 ☐ Yes → 54 1 ☐ Vocational / 2 ☐ Technical

2 ☐ No

22. What suggestions do you have for improvement and/or administration of vocational and/or technical education? (PLEASE CHECK ALL THAT APPLY)

55 1 ☐ More publicity about programs
2 ☐ More courses at your plant or place of business
3 ☐ More courses offered off main campus but closer to your firm
4 ☐ More involvement from your agency or firm in an advisory capacity
5 ☐ More technical education programs (PLEASE SPECIFY TYPES BELOW)

_____ 56 57
_____

6 ☐ More vocational education programs (PLEASE SPECIFY BELOW)

_____ 58 59
_____

7 ☐ Other suggestions: _____ 60
_____
_____

23. Finally, please describe any problems or concerns you have about vocational or technical education?

_____
_____ 61 62
_____

THANK YOU FOR YOUR COOPERATION
PLEASE FILL IN YOUR NAME AND TITLE BELOW,
AND RETURN QUESTIONNAIRE IN THE POSTAGE PAID ENVELOPE

(80 1)

Name: _____ Title: _____

Appendix B
Sample of Cross-Tabulation

INCIDENCE OF TECHNICAL AND/OR
CONSIDERED AS A GOOD S

	TOTAL		EMPLOYMENT* HIRED GRADS			STAN	
			TECH	VOC.	BOTH	AGR. FOR. FISH	MIN IN
INCIDENCE	#	%	%	%	%	%	%
YES, GOOD SOURCE	1064	92	96	95	96	88	7
---TECHNICAL CENTERS	255	22	41	7	12	20	5
---VOCATIONAL CENTERS	41	4	2	12	2	8	
---BOTH	768	66	53	77	82	60	2
NO, NOT A GOOD SOURCE	76	7	3	4	4	4	2
DON'T KNOW/NO ANSWER	21	2	*	1		8	
TOTAL	1161	100	266 100	137 100	219 100	25 100	10

BASE: ALL RESPONDENTS

Appendix B
Example of Cross-Tabulation (Continued)

TIONAL EDUCATION CENTERS BEING
OF TRAINED MANPOWER

	INDUSTRIAL CLASSIFICATION						SCHOOL INVOLVEMENT					
	MANU FACT URNG	TRNS COM. UTL.	WHLE SALE	RE- TAIL	FIN, INS. R.E.	SER- VICE	ADVISORY VOC.	ADVISORY TECH	SCHL BRD. VOC.	SCHL BRD. TECH	FACULTY VOC.	FACULTY TECH
	%	%	%	%	%	%	%	%	%	%	%	%
88	93	89	92	91	68	94	95	94	100	100	88	92
16	22	25	25	19	32	25	13	30	12	39	8	26
3	6	2	2	4	2	2	5	2			15	2
70	66	63	65	68	54	67	77	62	88	61	65	64
10	7	3	7	7	10	4	5	5			12	6
1		8	1	2	2	2		1				2
95	226	64	122	274	50	251	99	134	26	23	26	50
00	100	100	100	100	100	100	100	100	100	100	100	100

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